

# **BUDDHA SERIES**

# (Unit Wise Solved Question & Answers)

# Course – B.Sc (Bio)

# **College – Buddha Degree College**

(DDU Code-859)

Department: Science

**Subject:** PLANT BIODIVERSITY-1

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## <u>Unit - 1</u>

| Q.1.In Bryophytes vascular tissue | s are :                     |  |
|-----------------------------------|-----------------------------|--|
| a) Well developed                 | b) poorly developed         |  |
| c) Absent                         | d) None of these            |  |
| Ans- poorly developed             |                             |  |
| Q.2.Intercalary meristem is found | d in which Bryophyte genus? |  |
| a) Pellia                         | b)Funaria                   |  |
| c) Anthoceros                     | d)Marchantia                |  |
| Ans- Anthoceros                   |                             |  |
| Q.3. Appendiculate scales is foun | d in:                       |  |
| a) Riccia                         | b) Marchantia               |  |
| c) Anthoceros                     | d) All of these             |  |
| Ans- Marchantia                   | ,<br>,                      |  |
| O.4. In Archegonium , the cell ab | ove the egg cells is        |  |
| a) neck canal cell                | b) neck cell                |  |
| c) cover cell                     | d) ventral canal cell       |  |
| Ans- ventral canal cell           | ,                           |  |
| O.5.Spore Mother cell in Bryophy  | vtes is                     |  |
| a) Haploid                        | b) Diploid                  |  |
| c) Triploid                       | d)Tetraploid                |  |
| Ans- Diploid                      |                             |  |
| Q.6.Sporophyte of riccia have     |                             |  |
| a) Foot ,seta and capsule         | b) only seta                |  |
| c) only capsul                    | d) only foot                |  |
| Ans- only capsul                  |                             |  |
| Q.7.Sphagnum is know as           |                             |  |
| a) Peat moss                      | b) club moss                |  |
| c) liverworts                     | d) None of above            |  |
| Ans- Peat moss                    |                             |  |
| Q.8. Stomata are present on capsu | le wall of:                 |  |
| a) Riccia                         | b) Marchantia               |  |
| c) Funaria                        | d) Anthoceros               |  |
| Ans- Anthoceros                   |                             |  |
| Q.9.Pseudoelaters are found in th | e Sporophyte of             |  |
| a) <i>Riccia</i>                  | b) Marchantia               |  |
| c) funaria                        | d) Anthoceros               |  |
| Ans- Anthoceros                   |                             |  |
| Q.10.Which is aquatic species of  | Riccia                      |  |
| a) R. crystallina                 | b) R. discolor              |  |
| c) R. fluitans                    | d) R.himalayensis           |  |
| Ans- R. fluitans                  |                             |  |

| <ul> <li>Q11 .Bryophytes are commonly known as:</li> <li>a) Algae</li> <li>c) Vascular plants</li> <li>Ans- Amphibians of the plant kingdom □</li> </ul>  | <ul> <li>b) Amphibians of the plant kingdom </li> <li>d) Seedless vascular plants</li> </ul>                           |
|---|--|
| Q 12. The dominant phase in the bryophyte life of a) Sporophyte c) Zygote Ans- Gametophyte □  | cycle is:<br>b) Gametophyte □<br>d) Spore  |
| <ul> <li>Q13. Bryophytes lack true:</li> <li>a) Leaves</li> <li>c) Roots</li> <li>Ans- All of the above □</li> </ul>  | <ul><li>b) Stems</li><li>d) All of the above □</li></ul>   |
| Q14. Bryophytes are restricted to moist environma.) They have vascular tissue<br>c) They have seeds<br>Ans- Water is essential for fertilization □  | <ul> <li>ments because:</li> <li>b) Water is essential for fertilization □</li> <li>d) They have deep roots</li> </ul> |
| <ul> <li>Q15. An adaptation of bryophytes to land includ</li> <li>a) Flagellated sperm</li> <li>c) True xylem and phloem</li> <li>Ans- Cuticle on gametophyte □</li> </ul>                            | les:<br>b) Cuticle on gametophyte □<br>d) Seeds  |
| Q16. Bryophytes are divided into how many ma<br>a) 2<br>c) 4<br>Ans- 3 □  | jor classes?<br>b) 3<br>d) 5   |
| <ul> <li>Q17. The three classes of bryophytes are:</li> <li>a) Algae, Mosses, Liverworts</li> <li>c) Ferns, Gymnosperms, Mosses</li> <li>Ans- Liverworts, Mosses, Hornworts □</li> </ul>              | <ul> <li>b) Liverworts, Mosses, Hornworts </li> <li>d) Thallophytes, Bryophytes, Pteridophytes</li> </ul>              |
| Q18. Thalloid body is found in:<br><i>a) Riccia</i> □<br><i>c) Funaria</i><br><b>Ans-</b> <i>Riccia</i> □   | b) Polytrichum<br>d) Selaginella   |
| Q19. The simplest thallus organization in bryopl<br>a) Marchantia<br>c) Anthoceros<br>Ans- Riccia   | hytes is seen in:<br>b) Riccia □<br>d) Sphagnum  |
| <ul> <li>Q20. Which class of bryophytes has a horn-like</li> <li>a) Hepaticopsida</li> <li>c) Bryopsida</li> <li>Ans- Anthocerotopsida □</li> </ul>   | <ul> <li>sporophyte?</li> <li>b) Anthocerotopsida □</li> <li>d) Pteridophyta</li> </ul>                                |
| <ul> <li>Q21. In <i>Riccia</i>, the thallus is:</li> <li>a) Dorsiventral and dichotomously branched □</li> <li>c) Radially symmetrical</li> <li>Ans- Dorsiventral and dichotomously branch</li> </ul> | b) Erect leafy<br>d) Reduced to rhizoids   |
| <ul><li>Q22. Gemmae cups are characteristic of:</li><li>a) <i>Riccia</i></li><li>c) <i>Anthoceros</i></li></ul>   | b) Marchantia □<br>d) Sphagnum   |

#### Ans- Marchantia

| <ul> <li>Q23. Rhizoids in <i>Marchantia</i> are:</li> <li>a) Unicellular</li> <li>c) Multicellular and unbranched □</li> <li>Ans- Multicellular and unbranched □</li> </ul>                                       | <ul><li>b) Multicellular and branched</li><li>d) Absent</li></ul>                     |
|---|---|
| Q2 4. Sporophyte of Marchantia is:<br>a) Completely dependent on gametophyte<br>c) Photosynthetic<br><b>Ans- Completely dependent on gametophyte</b>  | <ul><li>b) Independent</li><li>d) Dominant</li></ul>                                  |
| <ul> <li>Q25. Anthoceros thallus has:</li> <li>a) Air chambers and pores</li> <li>c) No rhizoids</li> <li>Ans- Chloroplast with pyrenoid □</li> </ul>   | <ul> <li>b) Chloroplast with pyrenoid □</li> <li>d) Multicellular rhizoids</li> </ul> |
| <ul> <li>Q26. Sporophyte of Anthoceros is unique because it:</li> <li>a) Is photosynthetic and grows continuously □</li> <li>c) Lacks capsule</li> <li>Ans- Is photosynthetic and grows continuously □</li> </ul> | <ul><li>b) Is buried inside the thallus</li><li>d) Is flat and ribbon-like</li></ul>  |
| <ul> <li>Q27. <i>Sphagnum</i> is commonly known as:</li> <li>a) Hornwort</li> <li>c) Liverwort</li> <li>Ans- Peat moss □</li> </ul>   | <ul><li>b) Peat moss □</li><li>d) Algae</li></ul>                                     |
| <ul> <li>Q28. <i>Sphagnum</i> leaves have:</li> <li>a) No cells</li> <li>c) Both living and dead cells □</li> <li>Ans- Both living and dead cells □</li> </ul>  | <ul><li>b) Only living cells</li><li>d) Vascular bundles</li></ul>                    |
| <ul> <li>Q29. Sphagnum helps in soil conditioning due to:</li> <li>a) Nitrogen fixation</li> <li>c) Alkaline nature</li> <li>Ans- Water retention □</li> </ul>  | <ul><li>b) Water retention □</li><li>d) Oil content</li></ul>                         |
| Q30.Marchantia belongs to the family:<br>a) Marchantiaceae<br>c) Sphagnaceae<br>Ans- Marchantiaceae   | <ul><li>b) Ricciaceae</li><li>d) Anthocerotaceae</li></ul>                            |
| <ul> <li>Q31. Bryophytes play a significant role in:</li> <li>a) Destruction of forests</li> <li>c) Water pollution</li> <li>Ans- Soil erosion □</li> </ul>   | <ul><li>b) Soil erosion □</li><li>d) Air pollution</li></ul>                          |
| <ul> <li>Q32. Peat is obtained from:</li> <li>a) <i>Marchantia</i></li> <li>c) Sphagnum □</li> <li>Ans- Sphagnum □</li> </ul>   | b) Riccia<br>d) Anthoceros  |
| Q33. Peat is used as:<br>a) Fertilizer<br>c) Insecticide<br>Ans- Fuel and soil conditioner □  | <ul><li>b) Fuel and soil conditioner □</li><li>d) Antibiotic</li></ul>                |
| <ul><li>Q34. Some bryophytes are used in surgical dressings bec</li><li>a) They are sticky</li><li>c) They are absorbent and sterile □</li></ul>  | cause:<br>b) They are antiseptic<br>d) They are green                                 |

Ans- They are absorbent and sterile  $\Box$ 

Q35. Which of the following is used in ecological succession of rocks?a) Gymnospermsb) Bryophytes □c) Angiospermsd) Algae onlyAns- Bryophytes □

### <u>Unit - 2</u>

| Q.1.Spores of Pteridophytesare                                    |                                |
|---|--------------------------------|
| a) Haploid  | b) Diploid                     |
| c) Triploid   | d) Tetraploid                  |
| Ans- Haploid  |                                |
| Q.2.Rhynia was discovered by                                      |                                |
| a) BirbalSahni  | b) Arnold                      |
| c) Kidston and lang   | d) Smith                       |
| Ans- Kidston and lang   |                                |
| 0.3.Prof BirbalSahni is famous for his resea                      | arch in the field of           |
| a) Palaeobotany   | b) Physiology                  |
| c) Cytology   | d) Ecology                     |
| Ans- Palaeobotany   | ,                              |
| 0.4 glass hade of <i>Blancin</i>                                  |                                |
| Q.4. plant body of <i>Knynia</i> is                               | h) Upright                     |
| a) leaflass   | d) All of these                |
| $\Delta \mathbf{p}_{s}$ All of these                              | u) An or mese                  |
| Ans- An of these  |                                |
| Q.5. Heterospory is caused by                                     |                                |
| a) Nourishment  | b) Temprature                  |
| c) Humidity   | d) None of these               |
| Ans- Nourishment  |                                |
| $\Omega \in \mathcal{M}$ high of the following is an equation $D$ | aridanhuta)                    |
| Q.6. Which of the following is an aquatic Pt                      |                                |
| a) Lycopodium   | b) Equisetum                   |
| c) Azolia   | d) Pteris                      |
| Ans- Azolla   |                                |
| Q.7. in which stem protostele is found?                           |                                |
| a) Equisetum  | b) <i>Lycopodium</i>           |
| c) Pteridium  | d) Marsilea                    |
| Ans- Lycopodium   |                                |
| 0.8 Bearidanbutas ara known as                                    |                                |
| Q.8. Pteridophytes are known as                                   | h) Cruntograms                 |
| a) Phaneroganis   | d) Amphibians of plant kingdom |
| c) vascular Cryptograms   | a) Amphibians of plant kingdom |
| Ans- vascular Cryptograms   |                                |
| Q.9.A steel without a central pith is known                       | as                             |
| a) Protostele   | b) Siphonostel                 |
| c) Solenostele  | d) Dictyostele                 |
| Ans-  |                                |
| O 10. A plant hearing two types of spores in                      | stermed as:                    |
| a) Homospory  | h) Heterosnony                 |
| c) seed habit   | d) All of these                |
| Ans- All of these   |                                |
| Allo- All UI LIESE  |                                |

| Q11. Pteridophytes are the first grou<br>a) Seeds<br>c) Flowers<br>Ans- Vascular tissues □   | <b>p of plants to have:</b> b) Vascular tissues □ d) Fruits      |
|--|--|
| Q12.The dominant phase in the life c<br>a) Gametophyte<br>c) Zygote<br>Ans- Sporophyte □   | ycle of pteridophytes is:<br>b) Sporophyte □<br>d) Embryo        |
| <ul> <li>Q13. In pteridophytes, reproduction</li> <li>a) Asexual only</li> <li>c) Both asexual and sexual □</li> <li>Ans- Both asexual and sexual □</li> </ul>       | is:<br>b) Only by vegetative means<br>d) Only by fragmentation   |
| Q14. Which of the following is absent<br>a) Xylem and phloem<br>c) True leaves<br>Ans- Seeds □   | t in pteridophytes?<br>b) Seeds □<br>d) True stems               |
| <ul> <li>Q15. Pteridophytes are commonly ca</li> <li>a) Amphibians of plant kingdom</li> <li>c) Flowering plants</li> <li>Ans- Seedless vascular plants □</li> </ul> | <pre>lled:     b) Seedless vascular plants □     d) Mosses</pre> |
| <ul> <li>Q16. Rhynia is a/an:</li> <li>a) Algae</li> <li>c) Fossil pteridophyte □</li> <li>Ans- Fossil pteridophyte □</li> </ul>                                     | <ul><li>b) Bryophyte</li><li>d) Gymnosperm</li></ul>             |
| <ul> <li>Q17. Rhynia belongs to the group:</li> <li>a) Psilopsida □</li> <li>c) Sphenopsida</li> <li>Ans- Psilopsida □</li> </ul>                                    | b) Lycopsida<br>d) Pteropsida                                    |
| <ul> <li>Q18. In Rhynia, the vascular tissue is</li> <li>a) Absent</li> <li>c) Only phloem</li> <li>Ans- Well-developed with tracheids □</li> </ul>                  | b) Well-developed with tracheids □<br>d) Secondary xylem present |
| Q19. Which one of the following feature<br>a) Roots<br>c) Rhizoids □<br>Ans- Rhizoids □  | ures was present in Rhynia?<br>b) True leaves<br>d) Seeds        |
| <ul> <li>Q20. Rhynia was found in:</li> <li>a) Devonian rocks □</li> <li>c) Jurassic period</li> <li>Ans- Devonian rocks □</li> </ul>                                | b) Cretaceous period<br>d) Triassic rocks                        |
| Q21. Pteridophytes are classified into<br>a) 2<br>c) 4<br>Ans- 4   | b) 3<br>d) 5   |
| <b>Q22. Psilopsida includes:</b><br>a) Selaginella   | b) Equisetum   |

| c) Psilotum □<br><b>Ans-</b> Psilotum □   | d) Dryopteris   |  |
|---|---|--|
| Q23. Lycopsida includes:<br>a) Marsilea<br>c) Psilotum<br>Ans- Selaginella □  | <ul><li>b) Selaginella □</li><li>d) Pteris</li></ul>                  |  |
| <b>Q24. Sphenopsida includes:</b><br>a) Lycopodium<br>c) Azolla<br><b>Ans-</b> Equisetum □  | <ul><li>b) Equisetum □</li><li>d) Marsilea</li></ul>                  |  |
| Q25. Pteropsida includes:<br>a) Ferns like Dryopteris and Pteris □<br>c) Rhynia<br>Ans- Ferns like Dryopteris and Pteris □  | b) Psilotum<br>d) Selaginella   |  |
| <ul> <li>Q26. Heterospory is the production of a) One type of spore</li> <li>c) Two types of spores □</li> <li>Ans- Two types of spores □</li> </ul>  | b) Only microspores<br>d) Many types of spores                        |  |
| <ul> <li>Q27. Example of heterosporous pteri</li> <li>a) Lycopodium</li> <li>c) Equisetum</li> <li>Ans- Selaginella □</li> </ul>  | idophyte is:<br>b) Selaginella □<br>d) Pteris                         |  |
| <ul> <li>Q28. Heterospory is considered an in</li> <li>a) Vascular tissue development</li> <li>c) Leaf development</li> <li>Ans- Seed habit □</li> </ul>  | nportant step toward:<br>b) Seed habit □<br>d) Root formation         |  |
| <ul> <li>Q29. Seed habit involves:</li> <li>a) Production of megaspore only</li> <li>b) Retention and protection of the megaspore on the parent plant □</li> <li>c) Microspore germination only</li> <li>d) Absence of gametophyte</li> <li>Ans- Retention and protection of the megaspore on the parent plant □</li> </ul> |   |  |
| Q30. Which of the following shows incipient seed habit?a) Marsileab) Selaginella □c) Lycopodiumd) PsilotumAns- Selaginella □  |   |  |
| <ul> <li>Q30. The simplest type of stele is:</li> <li>a) Siphonostele</li> <li>c) Protostele □</li> <li>Ans- Protostele □</li> </ul>  | b) Dictyostele<br>d) Eustele  |  |
| <ul> <li>Q31. A stele with a central xylem cor</li> <li>a) Eustele</li> <li>c) Siphonostele</li> <li>Ans- Protostele □</li> </ul>   | re surrounded by phloem is:<br>b) Protostele □<br>d) Polycyclic stele |  |
| Q32. Which stele has pith in the cent<br>a) Protostele<br>c) Siphonostele □<br>Ans- Siphonostele □  | er?<br>b) Haplostele<br>d) Actinostele                                |  |

#### Q33. Stelar evolution in pteridophytes shows transition from:

a) Eustele to protostele
c) Dictyostele to actinostele
Ans- Protostele to siphonostele

- b) Protostele to siphonostele  $\Box$
- d) Pithless to pithless

#### Q34. Complex steles such as dictyostele are found in:

a) Psilotum c) Ferns □ Ans- Ferns □ b) Equisetumd) Selaginella

### <u>Unit - 3</u>

| Q.1. which is known as '' Sago- Palm'' :    |                       |
|---|-----------------------|
| a) Cycas                                    | b) Pinus              |
| c) Gnetum                                   | d) Ginkgo             |
| Ans- Cycas                                  |                       |
| Q.2. A blue green alga lives in :           |                       |
| a) Riccia thallus                           | b) Marchantia thallus |
| c) Cycas root                               | d) Pinus root         |
| Ans- Cycas root                             |                       |
| Q.3. Cycas is :                             |                       |
| a) Monoecious                               | b) Dioecious          |
| c) Hermaphrodite                            | d) None of these      |
| Ans- Dioecious                              |                       |
| Q.4. Prof .D.D .Pant has divided the Gym    | nosperms into:        |
| a) 4 division                               | b) 3 division         |
| c) 6 division                               | d) 8 division         |
| Ans- 3 division                             |                       |
| Q.5. Monoxylic wood is found in:            |                       |
| a) Cycas                                    | b) Pinus              |
| c) Ephedra                                  | d) Gnetum             |
| Ans- Cycas                                  |                       |
| Q.6. Terpentine is obtained from:           |                       |
| a) Cycas                                    | b) Pinus              |
| c) Ephedra                                  | d) Ginkgo             |
| Ans- Pinus                                  |                       |
| Q.7. Endosperm in gymnosperm is:            |                       |
| a) Haploid                                  | b) Diploid            |
| c) Triploid                                 | d) Polyploid          |
| Ans- Haploid                                |                       |
| Q.8 Which of the following is a living foss | il:                   |
| a) Cycas                                    | b) Pinus              |
| c) Ephedra                                  | d) None of these      |

| Ans- Cycas                                    |                                    |  |
|---|------------------------------------|--|
| Q.9 The pollination in Cycas takes place t    | through:                           |  |
| a) Wind                                       | b) Water                           |  |
| c) insect                                     | d) None of these                   |  |
| Ans- Wind                                     |                                    |  |
| Q.10 Which are known as Chir tree:            |                                    |  |
| a) Cycas                                      | b) Pinus                           |  |
| c) Rhynia                                     | d) Ephedra                         |  |
| Ans- Pinus                                    |                                    |  |
| Q11. Gymnosperms are characterized by         | :                                  |  |
| a) Enclosed seeds                             | c) Naked seeds $\Box$              |  |
| b) Non-vascular tissues                       | d) Seeds inside fruits             |  |
| Ans- Naked seeds $\Box$                       |                                    |  |
| Q12. Gymnosperms are mostly:                  |                                    |  |
| a) Aquatic                                    | c) Woody trees or shrubs $\square$ |  |
| b) Herbaceous                                 | d) Climbers                        |  |
| <b>Ans-</b> Woody trees or shrubs $\Box$      |                                    |  |
| Q13. Gymnosperms are primarily distrib        | uted in:                           |  |
| a) Hot and humid climates                     | c) Deserts only                    |  |
| b) Temperate and cold regions $\Box$          | d) Aquatic ecosystems              |  |
| <b>Ans-</b> Temperate and cold regions $\Box$ |                                    |  |
| Q14. Which of the following is a gymnosp      | erm?                               |  |
| a) Mango                                      | c) Rose                            |  |
| b) Cycas □                                    | d) Rice                            |  |
| Ans- Cycas 🗆                                  |                                    |  |
| Q15. How many major living orders of gy       | mnosperms are there?               |  |
| a) 2  | c) 4 🗆                             |  |
| b) 3  | d) 5                               |  |
| <b>Ans-</b> 4 □                               |                                    |  |
| Q16. Which gymnosperm is often called a       | "living fossil"?                   |  |
| a) Pinus                                      | c) Cycas                           |  |
| b) Ginkgo biloba 🗆                            | d) Gnetum                          |  |
|   |                                    |  |

| <b>Ans-</b> Ginkgo biloba □                          |  |
|--|--|
| Q17. Cycadales have:                                 |  |
| a) Simple leaves                                     | c) Needle-like leaves                      |
| b) Pinnately compound leaves                         | d) Scale leaves                            |
| <b>Ans-</b> Pinnately compound leaves □              |  |
| Q18. Ginkgoales are represented by:                  |  |
| a) Many species                                      | c) More than 100 species                   |
| b) Only one living species $\Box$                    | d) Entirely extinct                        |
| <b>Ans-</b> Only one living species $\Box$           |  |
| Q19. Coniferales typically have:                     |  |
| a) Compound leaves                                   | c) Needle-like or scale-like leaves $\Box$ |
| b) Fan-shaped leaves                                 | d) No leaves                               |
| <b>Ans-</b> Needle-like or scale-like leaves □       |  |
| Q20. Gnetales are unique among gymnosperms for ha    | ving:                                      |
| a) Vessel elements in xylem $\Box$                   | c) No vascular tissue                      |
| b) Seeds enclosed in ovary                           | d) Fruit-like cones                        |
| <b>Ans-</b> Vessel elements in xylem □               |  |
| Q21. A common example of Cycadales is:               |  |
| a) Gnetum  | c) Pinus                                   |
| b) Cycas 🗆   | d) Ephedra                                 |
| <b>Ans-</b> Cycas □                                  |  |
| Q22. Which gymnosperm belongs to Ginkgoales?         |  |
| a) Ginkgo biloba 🗆                                   | c) Cycas revoluta                          |
| b) Welwitschia                                       | d) Araucaria                               |
| <b>Ans-</b> Ginkgo biloba □                          |  |
| Q23. Pinus and Cedrus are members of:                |  |
| a) Gnetales  | c) Coniferales □                           |
| b) Ginkgoales  | d) Cycadales                               |
| <b>Ans-</b> Coniferales □                            |  |
| Q24. Which of the following is a member of Gnetales? |  |
| a) Pinus   | c) Gnetum 🗆                                |
| b) Cycas   | d) Taxus                                   |
|  |  |

| <b>Ans-</b> Gnetum □                                 |                         |
|--|-------------------------|
| Q25. Which plant has jointed stems and belongs to Gr | netales?                |
| a) Ephedra 🗆   | c) Pinus                |
| b) Cycas   | d) Ginkgo               |
| <b>Ans-</b> Ephedra □                                |                         |
| Q26. Gymnosperms do not form:                        |                         |
| a) Pollen  | c) Fruits               |
| b) Seeds   | d) Ovules               |
| Ans- Fruits  |                         |
| Q27. Male gametophyte in gymnosperms is represente   | ed by:                  |
| a) Antheridium                                       | c) Archegonium          |
| b) Pollen grain                                      | d) Embryo sac           |
| <b>Ans-</b> Pollen grain □                           |                         |
| Q28. In gymnosperms, pollination occurs through:     |                         |
| a) Water   | c) Wind $\square$       |
| b) Insects   | d) Animals              |
| Ans- Wind $\Box$                                     |                         |
| Q29. Fertilization in Cycas involves:                |                         |
| a) Non-motile sperm                                  | c) Double fertilization |
| b) Flagellated motile sperm                          |                         |
| d) Absence of archegonia                             |                         |
| <b>Ans-</b> Flagellated motile sperm □               |                         |
| Q30. Ovules in gymnosperms are:                      |                         |
| a) Enclosed within the ovary                         | c) Not formed           |
| b) Exposed on megasporophylls $\Box$                 | d) Inside fruit         |
| Ans- Exposed on megasporophylls $\Box$               |                         |
| Q31. Which gymnosperm is used for timber and pape    | r pulp?                 |
| a) Gnetum  | c) Pinus                |
| b) Ephedra   | d) Cycas                |
| Ans- Pinus 🗆   |                         |
| Q32. Ephedra is used for producing:                  |                         |
| a) Rubber  | b) Medicines for asthma |

| c) Alcohol   | d) Paper   |  |
|--|------------|--|
| <b>Ans-</b> Medicines for asthma □                         |            |  |
| Q33. Which gymnosperm is grown as an ornamental plant?     |            |  |
| a) Cycas 🗆   | c) Ephedra |  |
| b) Pinus   | d) Taxus   |  |
| <b>Ans-</b> Cycas □  |            |  |
| Q34. Taxol, an anti-cancer drug, is obtained from:         |            |  |
| a) Cycas   | c) Taxus 🗆 |  |
| b) Ginkgo  | d) Ephedra |  |
| <b>Ans-</b> Taxus □  |            |  |
| Q35. Which of the following has edible seeds ("chilgoza")? |            |  |
| a) Cycas   | c) Gnetum  |  |
| b) Pinus gerardiana 🗆                                      | d) Ephedra |  |
| Ans- Pinus gerardiana 🗆                                    |            |  |

### <u>Unit - 4</u>

| <ul><li>Q1. Palaeontology is the study of:</li><li>a. Plant fossils</li><li>c. Both plant and animal Fossils</li><li>Ans- Both plant and fossils</li></ul> | b. Animal Fossils<br>d. Pseudo fossils                |
|--|---|
| Q2.Palaeobotony deals with the study of :  |   |
| a. Fossils   | b. Plant fossils                                      |
| c. Ambers  | d. Biochemical fossils                                |
| Ans- Plant fossils   |   |
| O3. the word Fossils is derived from 'fossils'   | a:  |
| a. Greek word  | b. English word                                       |
| c. Latin word  | d. None of these                                      |
| Ans- Latin word  |   |
| 04 Extinct spacios is that spacios which is .  |   |
| <b>Q4.</b> Extinct species is that species which is .<br>a Non-existent fossil species   | h Existant species                                    |
| c both a and b   | d None of these                                       |
| Ans- Non existant fossil species   | d. None of these                                      |
| This Tron existant rossin species  |   |
| Q5. Best preserved fossils in which anatomy  | may be clearly seen are :                             |
| a. Impressions   | b. Petrifactions                                      |
| c. Compressions  | d. Carts  |
| Ans- petrifaction  |   |
| O6. The earth has been estimated to be abou  | ıt million vears old.                                 |
| (a) 3000-3500  | (b) 4600  |
| (c) 52   | (d) 100   |
| Ans- 4600  |   |
| 07 Coolegical time goals is comprelly divide   | 1 :   |
| $Q^{7}$ . Geological time scale is generally divided   | $\begin{array}{c} \text{(b) 10 or as} \\ \end{array}$ |
| (a) 2  cras  | (0) 10  eras $(d)  none of these$                     |
| (c) + clas<br>Ans $- 4$ eras   | (d) none of these                                     |
|  |   |
| Q8. Fossils of gymnosperm and Pteridophyte   | es are generally found in:                            |
| (a) Palaeozoic   | (b) Mesozoic era                                      |
| (c) Both in a and b  | (d) None of these                                     |
| Ans- Mesozoic era  |   |
| <b>O9.</b> Coal formation occurs in:   |   |
| a. Carbomiferous period  | b. Devonian   |
| c. Silurian  | d. Cambrian   |
| Ans- carboniferous period  |   |

| <b>Q10. Biral Sahani institute of Palaeobotany is</b><br>a. Delhi<br>c. Dehradun<br>Ans- Lucknow | situated in:<br>b. Lucknow<br>d. Benglore |  |
|--|---|--|
| Q11. Cycadofilicales are also known as:  |   |  |
| a) Seed ferns  | c) Fern allies                            |  |
| b) Club mosses   | d) Horsetails                             |  |
| <b>Ans-</b> Seed ferns □   |   |  |
| Q12. Cycadofilicales show features of both:  |   |  |
| a) Ferns and conifers  | c) Algae and mosses                       |  |
| b) Ferns and seed plants $\Box$  | d) Mosses and ferns                       |  |
| <b>Ans-</b> Ferns and seed plants □  |   |  |
| Q13. The seeds of Cycadofilicales were borne:  |   |  |
| a) Inside ovary  | c) Directly on leaves $\Box$              |  |
| b) On ovules   | d) Inside cones                           |  |
| <b>Ans-</b> Directly on leaves □   |   |  |
| Q14. Bennettitales are also known as:  |   |  |
| a) Seed mosses   | c) Fossil conifers                        |  |
| b) Cycadeoids □  | d) Club ferns                             |  |
| Ans- Cycadeoids  |   |  |
| Q15. Which of the following shows flower-like  | reproductive structures?                  |  |
| a) Cordaitales   | c) Bennettitales                          |  |
| b) Cycadofilicales   | d) Psilopsida                             |  |
| Ans- Bennettitales   |   |  |
| Q16. Cordaitales are considered ancestors of:  |   |  |
| a) Ferns   | c) Conifers $\Box$                        |  |
| b) Gnetales  | d) Cycads                                 |  |
| <b>Ans-</b> Conifers □   |   |  |
| Q17. Cordaitales had well-developed:   |   |  |
| a) Tracheids only  | c) Secondary wood $\square$               |  |
| b) Xylem with vessels  | d) Phloem only                            |  |
| Ans- Secondary wood  |   |  |
| Q18. Which of the following became extinct by the end of the Permian?                            |   |  |

| a) Cordaitales  | c) Cycads            |  |
|---|----------------------|--|
| b) Gnetales   | d) Conifers          |  |
| Ans- Cordaitales  |                      |  |
| Q19. Which is the oldest geological era?                              |                      |  |
| a) Paleozoic  | c) Precambrian       |  |
| b) Mesozoic   | d) Cenozoic          |  |
| Ans- Precambrian  |                      |  |
| Q20. The era known as the "Age of Gymnosperms" is:                    |                      |  |
| a) Cenozoic   | c) Mesozoic          |  |
| b) Paleozoic  | d) Precambrian       |  |
| Ans- Mesozoic   |                      |  |
| Q21. Which period is known for the dominance of ferns and seed ferns? |                      |  |
| a) Jurassic   | c) Carboniferous     |  |
| b) Triassic   | d) Cretaceous        |  |
| Ans- Carboniferous  |                      |  |
| Q22. The Cenozoic era is known as the age of:                         |                      |  |
| a) Reptiles   | c) Mammals $\square$ |  |
| b) Gymnosperms  | d) Amphibians        |  |
| Ans- Mammals  |                      |  |
| Q23. The Cambrian period belongs to which era?                        |                      |  |
| a) Mesozoic   | c) Cenozoic          |  |
| b) Paleozoic  | d) Precambrian       |  |
| Ans- Paleozoic  |                      |  |
| Q24. The process of preserving plant remains in rocks is called:      |                      |  |
| a) Photosynthesis   | c) Carbonation       |  |
| b) Fossilization  | d) Lithification     |  |
| <b>Ans-</b> Fossilization □   |                      |  |
| Q25. Fossilized tree trunks are examples of:                          |                      |  |
| a) Impression fossils   | c) Casts             |  |
| b) Petrified fossils $\Box$   | d) Moulds            |  |
| <b>Ans-</b> Petrified fossils □                                       |                      |  |

| Q26. Carbonized impressions are common in:                           |                                   |  |
|--|-----------------------------------|--|
| a) Igneous rocks   | c) Metamorphic rocks              |  |
| b) Sedimentary rocks □   | d) Lava                           |  |
| <b>Ans-</b> Sedimentary rocks □                                      |                                   |  |
| Q27. Which of the following is not a type of fossil?                 |                                   |  |
| a) Impression  | c) Substitution                   |  |
| b) Compression   | d) Segmentation                   |  |
| <b>Ans-</b> Segmentation □   |                                   |  |
| Q28. Which fossil type preserves fine details like vena              | tion?                             |  |
| a) Cast  | c) Impression                     |  |
| b) Mould   | d) Petrification                  |  |
| <b>Ans-</b> Impression □   |                                   |  |
| Q29. In permineralization, minerals deposit in:                      |                                   |  |
| a) Outside the plant body  | c) Only seeds                     |  |
| b) Cells and tissues $\Box$  | d) Only bark                      |  |
| <b>Ans-</b> Cells and tissues $\Box$                                 |                                   |  |
| Q30. Thin sections of fossils for microscopic study are prepared by: |                                   |  |
| a) Grinding and polishing $\Box$                                     | c) Drying only                    |  |
| b) Freezing  | d) Boiling                        |  |
| <b>Ans-</b> Grinding and polishing $\Box$                            |                                   |  |
| Q31.The technique used to study internal structure of                | petrified fossils:                |  |
| a) Radiography   | c) X-ray diffraction              |  |
| b) Petrographic method $\Box$  | d) Carbon dating                  |  |
| <b>Ans-</b> Petrographic method □                                    |                                   |  |
| Q32. Coal ball studies are important for understanding:              |                                   |  |
| a) Marine organisms  | c) Palaeobotanical anatomy $\Box$ |  |
| b) Aquatic flora   | d) Modern angiosperms             |  |
| Ans- Palaeobotanical anatomy   |                                   |  |
| Q33. Birbal Sahni is considered the father of:                       |                                   |  |
| a) Modern taxonomy   | c) Plant ecology                  |  |
| b) Palaeobotany in India   | d) Genetics                       |  |
| <b>Ans-</b> Palaeobotany in India □                                  |                                   |  |

#### Q34. Birbal Sahni established the Institute of Palaeobotany at:

a) Mumbai c) Delhi b) Lucknow 🗆 d) Kolkata Ans- Lucknow 🗆

#### Q35. Which fossil plant was extensively studied by Birbal Sahni?

| a) Glossopteris   | c) Cordaitales |
|-------------------|----------------|
| b) Cycas          | d) Ephedra     |
| Ans- Glossopteris |                |